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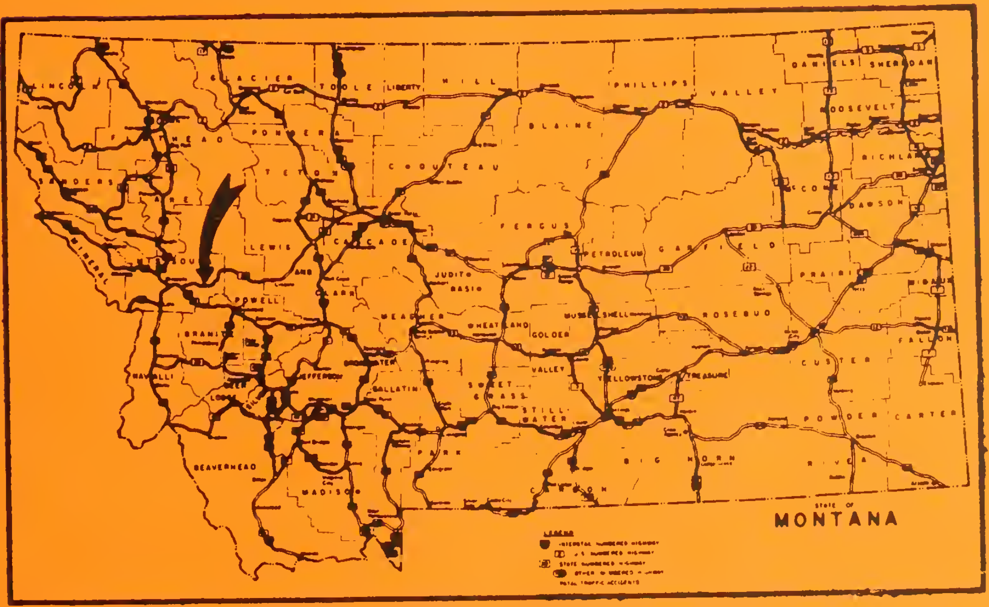
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 8

STATE OF MONTANA
DEPARTMENT OF HIGHWAYS

DRAFT ENVIRONMENTAL IMPACT STATEMENT

ADMINISTRATIVE ACTION
for

PROJECT RF 237(26)
POTOMAC WEST



THIS HIGHWAY IMPROVEMENT IS PROPOSED FOR FUNDING UNDER TITLE 23, U.S.C. THIS STATEMENT FOR THE IMPROVEMENT WAS DEVELOPED IN CONSULTATION WITH THE FEDERAL HIGHWAY ADMINISTRATION AND IS SUBMITTED PURSUANT TO 42 U.S.C. 4332 (2) (C)

H. J. ANDERSON, DIRECTOR OF HIGHWAYS

5-23-77
Date

By Jack R Beckert
Jack R. Beckert, Administrator - Engineering Division

APPROVED AND ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION

5-25-77
Date

For Harold N. Stewart, Director, Office Of Environment & Design

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SUMMARY SHEET

I. TYPE OF ACTION

(X) Administrative ( ) Legislative

(X) Draft ( ) Final

(X) Environmental Statement ( ) Section 4(f) Statement attached

II. INFORMATION

Federal Highway Administration, 501 North Fee, Helena, Montana 59601

Mr. W. S. Dunbar	Phone: 449-5310
Mr. H. J. Ollila	Phone: 449-5310

Montana Department of Highways, 6th and Roberts, Helena, Montana 59601

Mr. Kenneth F. Skoog	Phone: 449-3462
Mr. Mark A. **Leighton**	Phone: 449-3466

III. PROJECT DESCRIPTION

This project is on a portion of Federal Aid Primary Route No. 24, and begins approximately 6.7± miles northeast of Bonner and extends to the east, 8.8± miles to the vicinity of Potomac. This project is located in Missoula County and is shown on Exhibit I.

After completion, the new road will have a 40-foot finished top width with two 12-foot traffic lanes and two 8-foot shoulders.

A new bridge across the Blackfoot River will be constructed just north of what is locally known as the McNamara Bridge. Other bridges will be required at East Twin Creek and West Twin Creek for Alternates 2 and 3 while Alternate 1 requires two more bridges across the Blackfoot River.

IV. ENVIRONMENTAL IMPACTS

The proposed highway project would provide a much safer and more efficient transportation facility. The environmental impact of this project varies with each alternate.

The proposed alternates will result in acquisition of new right-of-way for construction of the new two-lane facility. Displacement of people cannot be avoided.

Construction of this project will temporarily increase the noise and air pollution in the nearby area. After construction these items should return to their present levels.

The impact on water quality involved in this project will vary with each alternate. Alternate 1 and Alternate 2 involve river encroachment which will cause substantial siltation while Alternate 3 is presently designed to avoid most river encroachment. The siltation caused by river encroachment will result in some loss in fish habitat.

More detailed information on environmental impacts is provided in section III of the main body of this statement.

V. ALTERNATES

The three alternates for this 8.8 mile project are located on the western end. The fourth alternate is the "no-build" alternate which is to do nothing to change the existing situation.

Alternate 1 follows along the south side of the river returning to the north side near the McNamara Bridge. Alternates 2 and 3 basically follow the present road on the north side of the river. Alternate 3 differs from Alternate 2 as Alternate 3 requires railroad relocation which enables Alternate 3 to avoid river encroachment. Alternate 1 and Alternate 2 require river encroachment. More detailed information is provided in section IV of the main body of this statement.

VI. FEDERAL, STATE, AND LOCAL AGENCIES AND OTHER ORGANIZATIONS FROM WHICH COMMENTS WERE REQUESTED:

Trout Unlimited
Kevin R. Clader
1037 Phillips Street
Missoula, Montana 59801

Western Montana Fish & Game
Association
P. O. Box 1037
Missoula, Montana 59801

Department of Health & Environmental Sciences
Water Quality Bureau
Board of Health Building
Helena, Montana 59601

R. H. Michaels
Rocky Mountain Division
Milwaukee Railroad Company
P. O. Box 570
Deer Lodge, Montana 59722

Burlington Northern Railroad Inc.
Resources Div. Timber & Land Department
650 Central Bldg.
Seattle, Washington 98104

Center For Public Interest, Inc.
P. O. Box 931
Bozeman, Montana 59715

Commander (OAN)
13th Coast Guard District
915 Second Avenue
Seattle, Washington 98174

Department of Anthropology
Dr. A. P. Samson
Montana State University
Bozeman, Montana 59715

Department of Anthropology
University of Montana
Missoula, Montana 59801

Department of Fish and Game
Assistant Administrator (2 copies)
Environment and Information Division
Sam W. Mitchell Building
Helena, Montana 59601

Department of Health & Envir. Sciences
Mosquito Abatement Advisory Council
Dr. Kenneth L. Quickenden
Board of Health Building
Helena, Montana 59601

Department of Health & Envir. Sciences
Air Quality Bureau
Mr. Clark Neilson
Cogswell Building
Helena, Montana 59601

Department of the Army
Seattle District Corps of Engineers
4735 East Marginal Way
Seattle, Washington 98104

Department of Housing & Urban Development
Attn: Environmental Clearance Officer
Federal Office Building
19th & Stout Streets
Denver, Colorado 80202

Dept. of Intergovernmental Relations
Director
Capitol Post Office
Helena, Montana 59601

Dept. of Health, Education & Welfare
9017 Federal Office Building
19th and Stout Streets
Denver, Colorado 80202

Economic Development Administration
Chicago Title Building
909 - 17th Street Suite 505
Denver, Colorado 80202

Environmental Protection Agency
Deputy Regional Administrator
Region VIII
Suite 900, 1860 Lincoln Street
Denver, Colorado 80203

Environmental Quality Council
Office of the Director
P. O. Box 215 Capitol Post Office
Helena, Montana 59601

Federal Housing Administration
Housing & Urban Development
Office of the Director
616 Helena Avenue
Helena, Montana 59601

Friends of the Earth
P. O. Box 882
Billings, Montana 59103

Montana Automobile Association
P. O. Box 1703
Helena, Montana 59601

Montana League of Conservation Voters
1823 Highland
Helena, Montana 59601

Montana State Library (20 copies)
930 East Lyndale
Helena, Montana 59601

Montana Stockgrowers Association
Office of the Secretary
P. O. Box 1679 First National Bank Bldg.
Helena, Montana 59601

Montana Wildlife Federation
Chairwoman, Highway Committee
1015 Peosta
Helena, Montana 59601

Sierra Club
Bitterroot Mission Group
P. O. Box 315
Missoula, Montana 59801

State Clearinghouse
Office of Budget & Program Planning
Capitol Post Office
Helena, Montana 59601

State-Local Relations Project
Commission on Local Government
State Capitol
Helena, Montana 59601

The Wilderness Society
4260 East Evans Avenue
Denver, Colorado 80222

U. S. Department of Interior
Fish & Wildlife Service
Regional Director, Region G
P. O. Box 25486, Denver Federal Center
Denver, Colorado 80225

U. S. Department of Interior
Assistant Secretary - Program Policy
Attn: Director, Environmental Proj. Review
Washington, D. C. 20240

U. S. Department of Agriculture
State Conservationist
Soil Conservation Service
P. O. Box 970
Bozeman, Montana 59715

U. S. Dept. of Transportation
Federal Aviation Administration
FAA Building, Room 2
Helena Airport
Helena, Montana 59601

U. S. Federal Power Commission
555 Battery Street
San Francisco, California 94100

F. A. "Jim" Graehl
435 Higgins Ave.
Missoula, Montana 59801

Dan Price
P. O. Box 511
Sidney, Montana 59270

Dwight Smith
P. O. Box 295
Lincoln, Montana 59639

Gordon Nisbet
3026 - 9th Ave. North
Great Falls, Montana 59401

Highway 200 Association
Mr. Charles T. Young
116 - 12th Ave. South
Lewistown, Montana 59457

VII. DATE DRAFT STATEMENT AVAILABLE TO C.E.Q.

ENVIRONMENTAL STATEMENT

I. NEED FOR PROJECT AND HISTORICAL BACKGROUND

The objective of the proposed improvement is to provide a paved two-lane highway on an 8.8 mile section of Montana Highway 200 in Missoula County. The westerly three miles of the project has been under investigation since 1961. It was determined that river encroachment was required to avoid substantial construction costs but this idea was met with disapproval by the Montana Department of Fish and Game in 1964. Since 1964, alternate routing has been under investigation.

The existing highway has a very low sufficiency rating which is a comparison of the existing conditions of the highway with the latest design standards. The following are the average existing ratings given the stretch of road involved in this project.

	Maximum Rating Possible	Rating Given This Project
1. Foundation -	10	0
2. Surface -	30	9
3. Drainage -	10	6
4. Safety -	20	2
5. Capacity -	30	4
	100	21

The above ratings are very low and indicate a definite need for improvement. A sufficiency rating of 40 or less is given approximately 7% of the rural primary highways located in the State which includes this project. These projects are in a critical category. This project, with a rating of 21, should be constructed immediately if funds are available. New construction of this portion of road would provide many improvements. The most westerly 2.5 miles of this

project lie within a four mile high hazard location as indicated in a statewide analysis of accident locations. In this four mile area there were forty-two accidents in the years 1972-1975. This is an accident rate of 4.09 per million vehicle miles. Also of particular concern within this four miles is a critical area called Rainbow Bend which had an accident rate of 21.3 and a severity rate of 1.83 which is one of the highest in the state.

The present road was build in 1940 and 1941 with improvements made in 1942 and 1963. The road width is twenty-four feet. The average daily traffic (ADT) for this stretch of road is presently 1874 vehicles per day. Within the projected life span of this road, twenty years, the ADT is expected to rise to 4740 vehicles per day. To accommodate this increase in traffic, a road width of forty feet is proposed for this project. A forty foot width will provide two twelve-foot wide traffic lanes and two eight-foot wide shoulders.

The westernmost three miles of this project lie in the Blackfoot River Canyon which is one of the prime recreation areas within a twenty-five mile radius of Missoula. Recreational facilities and fishing accesses are considered by some to be in need of improvement in this area. Consideration will be given to these facilities and access during the development of this project. Through coordination with other state agencies, improvements adjacent to highways can often be realized.

II. DESCRIPTION OF THE PROPOSED HIGHWAY IMPROVEMENT AND ITS SURROUNDINGS

A. Location

The project is located in the eastern portion of Missoula County in western Montana. This project will involve the reconstruction of approximately 8.8 miles of Montana Highway 200 between the towns of Bonner and Potomac which is 13 miles east of Missoula (see Exhibit I, II, III & IV).

This road provides a critical link between Great Falls and Missoula. Approximately three miles of this project lie adjacent to the Blackfoot River.

B. Geology & Terrain

This project lies in the eastern part of Missoula County. The terrain in this part of the county is highly mountainous with narrow valleys. The height of the mountain peaks vary from 8,000 to 10,000 feet in elevation. The elevation of this project varies from 3400 to 3600 feet. Approximately 3 miles of this project lies adjacent to the Blackfoot River with the other approximately 5.8 miles intermittently adjacent to Union Creek in a farming and ranching valley.

The predominant type of rock encountered on this project is argillite rock. Other predominant materials on the proposed alignments are gravel and sand.

C. Climate and Air

The location of the Continental Divide which is east of the project area is a key element in defining the climate. West of the Continental Divide, the climate tends to be controlled by the flow of moist Pacific Marine air.(1)

The air in the vicinity of Bonner is not as pure and clear as are most other areas of the state. This is due mainly to the emissions from the nearby wood products plants which cause a certain amount of pollution. The effect of this air pollution on the project area which is 6.7± miles up the Blackfoot Canyon is undetermined. Montana in general is considered to have air that is of a very high quality with a limited amount of pollution.

The average temperature in the project area is about 22° during January and about 66° during July. The average annual precipitation for this area ranges from 20 inches to 40 inches. (2)

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(1) "Gallatin Canyon Final Report" - Murray-McCormick Environmental Group. Sacramento, California, 1972

(2) Montana in Maps, pg. 10-12, - Taylor, Robert L. - Montana State University 1974

D. Water Quality & Quantity

The water sources for the Blackfoot River originate on the continental divide. The flow of this river is generally westward with the confluence of the Blackfoot River and the Clark Fork River located approximately five miles east of Missoula.

The flow of the Blackfoot River remains relatively constant due to little diversion of the water for irrigation purposes. The only known source of water pollution in this area of the Blackfoot is sedimentation occurring during the spring runoff period. This is due to a combination of naturally erodible areas and man's activities upstream. The present level of siltation is not known at this time.

E. Vegetation

The project alignment for a portion of the project is adjacent to the Blackfoot River for a three mile portion of road between Rainbow Bend and McNamara Bridge. In this area there is a ponderosa pine-Douglas fir forest with scattered stands of western larch. The grasses in this area consist of prairie junegrass and Idaho fescue. The shrubs and forbs include current, ninebark, snowberry, kinnikinnik, chokecherry, sumac, ceanothus, and erigonium.

The majority of the project alignment east of the McNamara Bridge to the vicinity of Potomac is adjacent to a farming valley on the south side with timber line adjacent on the north side. The trees that are found in this area are Ponderosa pine, quaking aspen, Douglas fir, juniper, box elder, birch, populus and western larch. The shrubs and forbs in this area include Oregon grape, Woods rose, white dutch clover, clematis, willow, chokecherry, red-osier dogwood, yellow sweet clover, bedstraw and horsetail fern. The grasses found in this area include western wheatgrass, bluebunch wheatgrass, Kentucky bluegrass, Timothy slender wheatgrass, smooth brome, cheatgrass, Idaho fescue, crested wheatgrass and Canada wild rye.

F. Fish & Wildlife

The Blackfoot River contains the following species of fish: whitefish, rainbow trout, cutthroat trout, brown trout, Dolly Varden trout, coarse-scaled suckers, fine-scaled suckers, squawfish, and Columbia River chubs. Whitefish are most abundant with rainbow trout second.

The section of river under consideration is a valuable component of the statewide fishery for several reasons. Good physical habitat and high quality water produce healthy fish populations. Late summer and fall fishing is available because the flow remains relatively constant due to little diversion of the water for irrigation purposes. The area is close to Missoula and consequently receives heavy fishing pressure and recreational use. An estimate of the fishing pressure was made in 1968 on the section of river from Bonner to the mouth of the Clearwater River and it was calculated that about 17,148 fisherman-days of use occurred from May to September. The average rate of catch was about 1.5 fish of all species per hour. In 1973, 12,000 seven-to-nine inch rainbow trout were planted in the section of river from Bonner to Ninemile Prairie in an effort to provide additional fishing recreation.

The entire area of proposed construction is a year long deer range for both whitetailed and mule deer.

G. Land Use

The land use along this project is farming, rural residential, and commercial (lumber camps and timber production). The land north of the railroad is owned by Champion Plywood which maintains a logging camp at Twin Creeks with

the remaining portion of their ownership being used for timber production. The land between the railroad and the river is rural residential in various private ownerships. The land use south of the river consists of timber production. The land along the easterly 5.5 miles of this project is used for farming.

H. Economic Activity

The significant economic activity of the area consists of lumbering and agriculture. The easterly five miles of this project lies in a fertile valley where a small number of farms exist. The lumbering activity is in the Twin Creeks area adjacent to the road.

I. Transportation

The transportation systems in the project area are Montana Highway 200 and a spur of the Chicago, Milwaukee, St. Paul and Pacific Railroad. The railroad spur is relatively inactive and was used primarily for the movement of lumber in the past. The present traffic on this railroad is used for movement of lumber and is limited to a maximum speed of 30 miles per hour with less than one movement per day.

Montana Highway 200 has a present average daily traffic (ADT) of 1874 vehicles. Approximately 24% of this traffic is large trucks with 50% of the traffic being trucks of all sizes including pickups. There are two commercial buses that run between Missoula and Great Falls each direction every day of the week. School buses take children to Potomac to grade school and to Missoula to high school. The school bus services to the Bonner school ends one mile west of the project.

III. PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

A. Broad Impacts

The most significant impact of this project would be to provide a safe and efficient highway for the traveling public. At present a portion of this

project is one of the most critical accident areas in the state.

This project will not affect any minority groups and will have little or no economic or social impact in the area involved.

The mail route, school buses, commercial buses, fire protection, and other services will continue to serve the area in much the same manner as they now do. The new road would have no adverse effect on these services.

The alternates will have varying effects on the relocation of residences in the project area and will result in the following relocations:

Alternate #1 - One House and garage

Alternate #2 - Two Houses, two mobile-homes, 2 trailers, garage, shop & 6 sheds

Alternate #3 - Two Houses & one mobile home, 1 large garage, 3 sheds

Efforts will be made to secure land for the relocated homes in the nearby area. If this cannot be done, perhaps land can be obtained nearer to Bonner or Potomac.

The only major change in land use brought about by this project would involve the land south of the river and between the railroad and the river. The predominant right-of-way widths will be approximately 220 feet. Alternate No. 1 would provide access to the south of the river and would probably change approximately 90 acres from timber production to rural residential. Alternate No. 1 would also change approximately 2.5 acres of residential land to highway right-of-way. Alternates No. 2 and No. 3 would change approximately 10 acres of land between the railroad and the river from residential to highway right-of-way as well as approximately three acres of lumber camp land to railroad right-of-way.

B. Impacts on the Narrow Band Adjacent to the Highway

The effects of this project vary considerably with each alternate. The significant impacts adjacent to the highway will be noise pollution, water

pollution, air pollution, river encroachment, disruption of aquatic life, the disruption of wildlife, clearing and covering of existing vegetation, utility relocation and possible access control.

1. Water and Air

The river encroachment required for the alternate routes will cause temporary but substantial siltation. Alternate 1 requires approximately 1000 ft. of river frontage encroachment while Alternate 2 requires approximately 2300 feet of river frontage encroachment. Alternate 3 is presently designed to avoid encroaching on the river.

Alternate 2 and 3 require crossings at the Twin Creeks. Drainage structures at these crossings will be designed and constructed to minimize any siltation or water pollution to the creeks. These structures will also provide unimpeded fish passage.

Other water pollution and some air pollution will temporarily increase while the new highway is under construction. The Department of Health and Environmental Sciences has determined that while under construction this project will have no adverse effect on air quality. The contractor will be required to adhere to all pertinent laws in regard to these problems.

The following is an excerpt from the Montana Department of Highways' Standard Specifications in regard to methods the contractor is to use to prevent water and air pollution.

a. Water Pollution

The contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution and siltation of rivers, streams or impoundments. Pollutants such

as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful wastes shall not be discharged into or alongside of rivers, streams, impoundments or into natural or manmade channels leading thereto. In addition, the Contractor shall conduct and schedule his operations to avoid muddying or silting of rivers, streams or impoundments. The contractor shall meet the requirements of the applicable regulations of the Department of Fish and Game, Department of Health and Environmental Sciences and other State or Federal regulations relating to the prevention or abatement of water pollution and siltation. The contractor's specific attention is directed to the Montana Water Pollution Control Act and the Montana Stream Preservation Act.

The contractor shall dispose of all refuse and discarded materials in an approved location.

Water pollution and siltation control work shall consist of temporary erosion control measures which may be shown on the plans, specified in the Special Provisions, proposed by the contractor and approved by the engineer, or ordered by the engineer during the life of the contract. Said work is intended to provide prevention, control and abatement of water pollution and siltation within the limits of the project and to minimize damage to the work and to adjacent property and streams or other bodies of water.

The contractor shall coordinate temporary pollution and siltation control work with permanent drainage and erosion control work and all other work on the contract, including permanent

seeding that may be specified in the contract or ordered by the engineer to the extent practicable to assure that effective and continuous erosion control is maintained during the construction of the project.

The contractor shall provide temporary pollution and siltation control measures, including but not limited to the following.

Construct ditches, berms, culverts, etc. to control surface water.

Construct dams, settling basins, energy dissipators, etc. to control downstream flows.

Provide means of controlling underground water which may be encountered during construction.

Protect slopes by covering or by other means until permanent erosion control measures are effective.

Before starting any work on the project, the contractor shall submit to the engineer for acceptance a program for effective control of water pollution and siltation. Such program shall show the schedule for the erosion control work included in the contract and for all temporary water pollution and siltation control measures which the contractor proposes to take in connection with construction of the project to minimize the effects of his operations upon adjacent streams and other bodies of water. The contractor shall not perform any clearing and grubbing or earthwork on the project, other than that specifically authorized in writing by the engineer, until such program

has been accepted. The contractor shall revise and bring up to date said water pollution control program at any time the engineer makes written request for revision.

b. Air Pollution

Whenever a hot-mix paving plant, aggregate crusher or similar operation is to be conducted, the contractor shall acquaint himself with all local conditions, city, county and state laws pertinent to air pollution before commencing his operations. It is possible that legal action may be instituted against the contractor to force him to conduct his operation in a dust and smoke free manner. The contractor should be prepared to operate in a manner satisfactory to a restraining court order. This may mean employing adequate dust filters and smoke collectors or use of other means meeting the existing requirements. No additional payment will be made to the contractor for the use or installation of dust or smoke control devices nor for the disruption of work or loss of time occasioned by the installation of such control devices, or for any other related reasons.

The contractor shall have informed himself of all applicable Department of Health and Environmental Sciences requirements, pertaining to control of or abatement of air pollution. He shall have provided or be prepared to provide such air pollution control measures as are required to comply with the minimum standards established by such agencies.

In the project area the Blackfoot River has a relatively steep hydraulic gradient and is considered a straight river. Due to the nature of the canyon

through which it flows, the Blackfoot River does not exhibit the serious problems associated with meandering and braided rivers. The river has become incised in a narrow canyon generally with high rock walls on one side and stable alluvial banks on the other. These banks generally contain flood flows and are well vegetated. This, along with the periodic bedrock outcroppings on the river bottom, have limited the lateral movement and the aggradation or degradation that can occur. Encroachment on the waterway by highway construction will not cause the river to become unstable or change its course, but will still have certain impacts on the river as discussed below.

Alternate 1:

No major hydraulic problems are foreseen from Station 169± to Station 239±. There will be some minor encroachment on the 100 year flood plain from Station 239± to the bridge abutment, but no problems are anticipated.

The bridge site at Station 250± will pose a problem with the location and alignment of the piers because of the difference in flow directions between high and low water.

A rock outcrop, 250 feet upstream, is instrumental in directing the river flow and the formation of a large gravel bar at the bridge site. At low flows the main current crosses from the south to the north bank at the bridge site. During highwater, the mainstream moves toward the center of the channel, flowing over the gravel bar. Thus, an alignment for one type of flow during the year will be in conflict with the other, with scour, erosion, and sedimentation problems. Also, if the pier is placed on the gravel bar, it may create a collection point for debris and ice during highwater. Without further field information, it is difficult to predict the hydraulic action as a result of the different pier locations and alignments.

Alternate 2:

The encroachments on the waterway by the highway at Station 165± to Station 169±, Station 200± to Station 244±, Station 258± to Station 267±, and Station 281± to Station 288±, will reduce the waterway area, raise the flood elevation, and increase the water velocity. The estimated increases of the flood elevation and the velocity during the 100 year flood are about 2.5 feet and 0.5 ft./sec., respectively. Increases in the flood elevation would mean flooding of areas not subjected to flood waters in the recent past and possible destruction of vegetative cover on the alluvial banks. Increased velocities through the constucted areas may increase local scour and bank erosion, depending on bed and bank stability through and downstream from the constricted area. The increased stage elevations resulting upstream from the constructed areas will cause deposition of material in these areas with further problems occurring upstream. We would expect some change in flow patterns around the island near Station 220± as the result of the construction in this area and some problems would be expected.

Most of these problems can be minimized by replacing the waterway area taken by the encroachments and re-establishing the vegetative cover disturbed during the construction.

Alternate 3:

No encroachment is anticipated with this alternate.

2. Fish and Wildlife

The three alternative routes have varying effects on existing fish and wildlife populations. Alternate 1 would create easy access to the south side of the Blackfoot River and would tend to degrade or eliminate this area as whitetail deer habitat. This alternate would have no significant effect on fish habitat. Alternate 2 would avoid infringement on deer habitat and would require encroachment in the river channel resulting in the loss of some fish fish habitat. Alternate 3 would avoid significant conflict with both fish and wildlife sources.

3. Vegetation

It is inevitable that some clearing and grubbing be required for all alternates. Alternate No. 1 will require approximately 43 acres of clearing and grubbing while Alternate No. 2 and No. 3 will require approximately 10 acres of clearing and grubbing.

4. Noise

Noise levels will be temporarily increased in the project area while the new highway is under construction. After construction, these noise levels should return to present levels.

The projected traffic volume for this project is expected to be approximately 2½ times the present traffic within the 20 year lifespan of this project. With this increase in traffic, highway generated noise levels will increase. Preliminary investigations indicate that noise levels that are generated in the future will be below the 70 dBA standard for residences, motels, schools, churches, hospitals and parks.

5. Utilities

Among the utilities affected by this project are those owned by the Missoula Electric Co-op, Montana Power Company, Blackfoot Telephone, and the Chicago, Milwaukee, St. Paul and Pacific Railroad. The three proposed alternates have varying effects on the utilities.

Costs of the utility relocations are discussed in section IV.

IV. ALTERNATES

A. Alternate Descriptions

1. Project Limits

Three alternate alignments are being considered for a three mile portion of the total 8.8 miles of this project. The beginning of the alternate alignments is at what is locally known as the Rainbow Bend and the end at approxi-

mately 700 feet east of the new bridge which would be about fifty feet north of the existing McNamara Bridge. The road extending east from the new bridge will converge with the present road at a point approximately 700 feet east of the new bridge. The portion of this project that extends from that point of convergence with the present road to the vicinity of Potomac, approximately 5.6 miles, follows the present roadway and no alternates are proposed for this section.

Alternate No. 1 is approximately 2.5 miles long while Alternates No. 2 and 3 are approximately three miles long.

2. Alternate No. 1

Alternate No. 1 crosses the Blackfoot River at the beginning of the project near Rainbow Bend and extends along the south side of the river for 1.6 miles to another bridge putting the roadway back on the North side of the river at about Sta. 250±00. From this point to a new bridge to be built fifty feet north of the McNamara Bridge, the new road parallels the present road requiring river encroachment from about Sta. 280+00 to Sta. 290+00. This Alternate ends approximately 700 feet east of the new bridge.

3. Alternate No. 2

Alternate No. 2 lies in the general area of the present road for the first 1700 feet of the project up to Sta. 169. From Sta. 169 to the new bridge just north of the McNamara Bridge, the new road will parallel the railroad and intermittently overlap the existing road. River encroachment is required between Sta. 166± and Sta. 169±, Sta. 219± and Sta. 221±, Sta. 256± and Sta. 264±, and Sta. 280± to Sta. 290±. This alternate ends approximately 700 feet east of the new bridge. Two new highway bridges are required at the Twin Creeks.

4. Alternate No. 3

Alternate No. 3 parallels very closely Alternate 2. Alternate 3 varies from Alternate 2 as it requires railroad relocation rather than river encroachment although a small amount of river encroachment may be required. Two bridges are required at the Twin Creeks for the new roadway as well as two new bridges for the railroad relocation.

At present the C. M. St. P. & P. Railroad is investigating the abandonment of the portion of railroad between Bonner and Clearwater. If an abandonment process is achieved, a substantial savings will be realized on this alternate. This savings is indicated as railroad relocation in the cost estimates on page 23.

A modified alternate that combined Alternate No. 2 and Alternate No. 3 was investigated which avoided river encroachment at Rainbow Bend and tolerated river encroachment upstream. This modified alternate would save approximately $1,316,000 when compared to Alternate No. 3.

5. "No Build" Alternate

The fourth Alternate is the "no-build" alternate which is to do nothing to change the existing situation.

C. Cost Estimates of Alternates

1. Alternate No. 1

a. Construction

Roadway Construction	-	$ 403,000.00
Bridge Structures	-	$1,757,000.00
25% for Contingencies & Engineering Costs	-	540,000.00
Sub Total	-	$2,700,000.00

b. Right-of-Way 95,000.00

c. Relocation

Homes	-	$ 11,570.00
Utilities		323,000.00
Total		$3,129,570.00

2. Alternate No. 2

a. Construction

Roadway Construction	-	$1,158,000.00
Bridge Structures	-	1,063,000.00
25% for Contingencies & Engineering Costs	-	555,000.00
Sub Total		$2,776,000.00

b. Right-of-Way	-	110,000.00

c. Relocation

Homes	-	26,115.00
Utilities	-	95,000.00
Total		$3,007,115.00

3. Alternate No. 3

a. Construction

Roadway Construction	-	$ 724,052.00
Bridge Structures	-	1,062,800.00
25% for Contingencies & Engineering Costs	-	$ 446,713.00
Sub Total		$2,233,565.00

b. Right-of-Way		25,000.00

c. Relocation

Homes	-	$ 26,230.00
Utilities	-	95,400.00
Railroad Relocation	-	$2,337,550.00
Total		$4,717,745.00

V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

In order to provide an adequate highway facility to accommodate present and expected traffic volumes, new right-of-way will have to be acquired. As homes are located adjacent to the existing narrow right-of-way, displacement cannot be avoided. The following number of homes would be displaced by construction of the alternates shown:

Alternate #1 - One House and garage

Alternate #2 - Two houses & two mobile homes, 2 trailers, garage, shop and 6 sheds

Alternate #3 - Two houses & one mobile home, 1 large garage, 3 sheds

VI. RELATIONSHIP BETWEEN SHORT TERM USES AND LONG-TERM PRODUCTIVITY

The short-term uses of the environment for this project will consist of disruption of the area and traffic flow during construction, residential relocation, and the taking of residential land. The disruption caused by the construction process will last only as long as construction is in progress. Traffic flow will be impeded during construction due to the lack of space for detouring. Traffic may be restricted to one traveling lane while the other traveling lane is under construction.

The major long term effect will be the provision of a safe and efficient transportation facility to serve the traveling public. Another long term effect of this project will be the change in land use. Alternate No. 1 will change the south side of the river (from unaccessable timber production land to rural residential land and highway right-of-way). Alternates No. 2 and No. 3 will change some residential and timber production land to highway right-of-way.

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The land acquired for the right-of-way will no longer be available for timber production, residential use, or wildlife habitat. The commitment of construction materials, money and labor is irreversible in that it cannot be used for another project. Approximately 437,500 gallons of number two diesel fuel and 2996 tons of bituminous material would be used.

Encroachment on the waterway by highway construction will not cause the river to become unstable or change its course, but will still have certain impacts on the river. Details of these impacts are discussed in section III.

EXHIBIT I

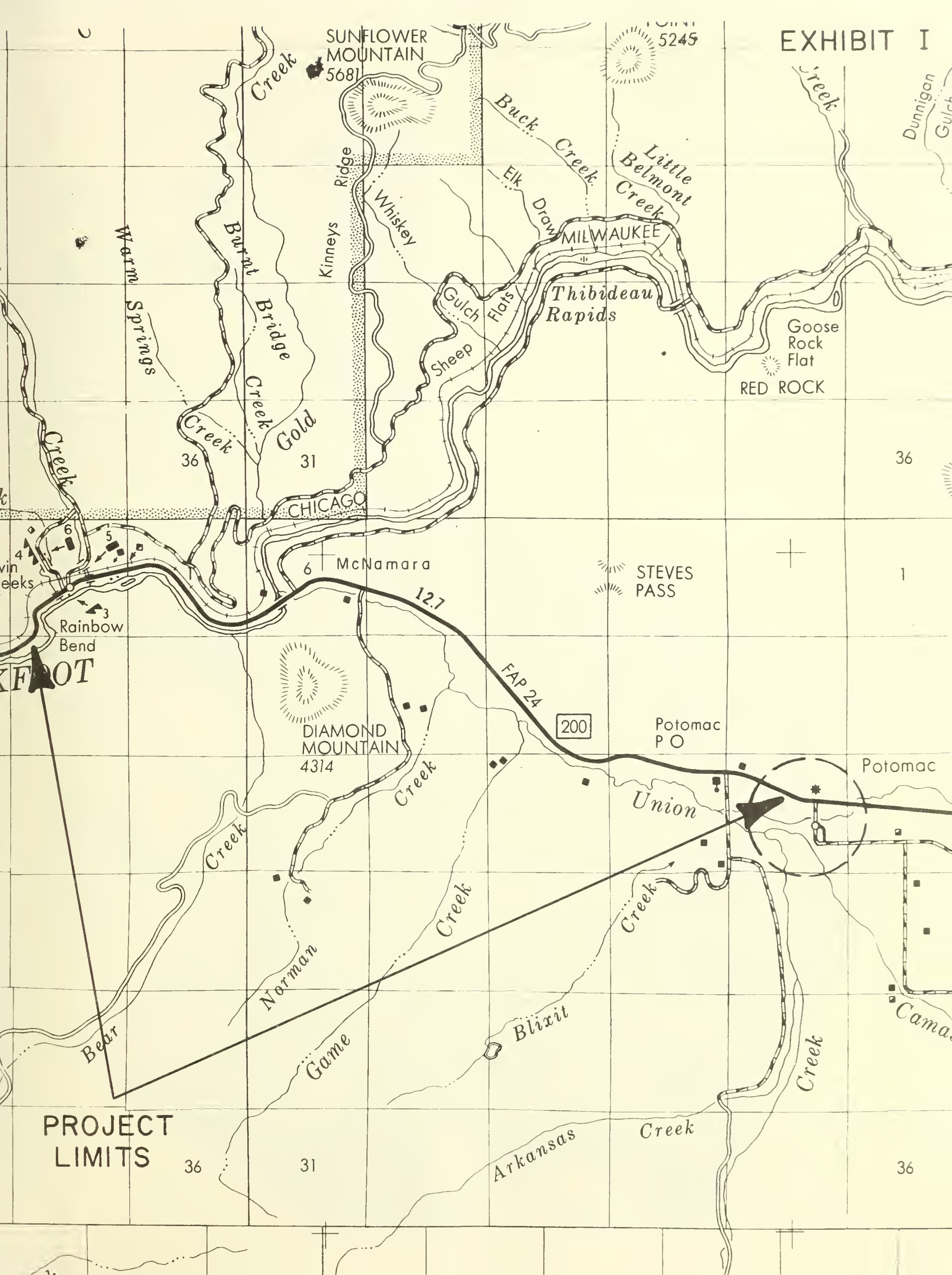
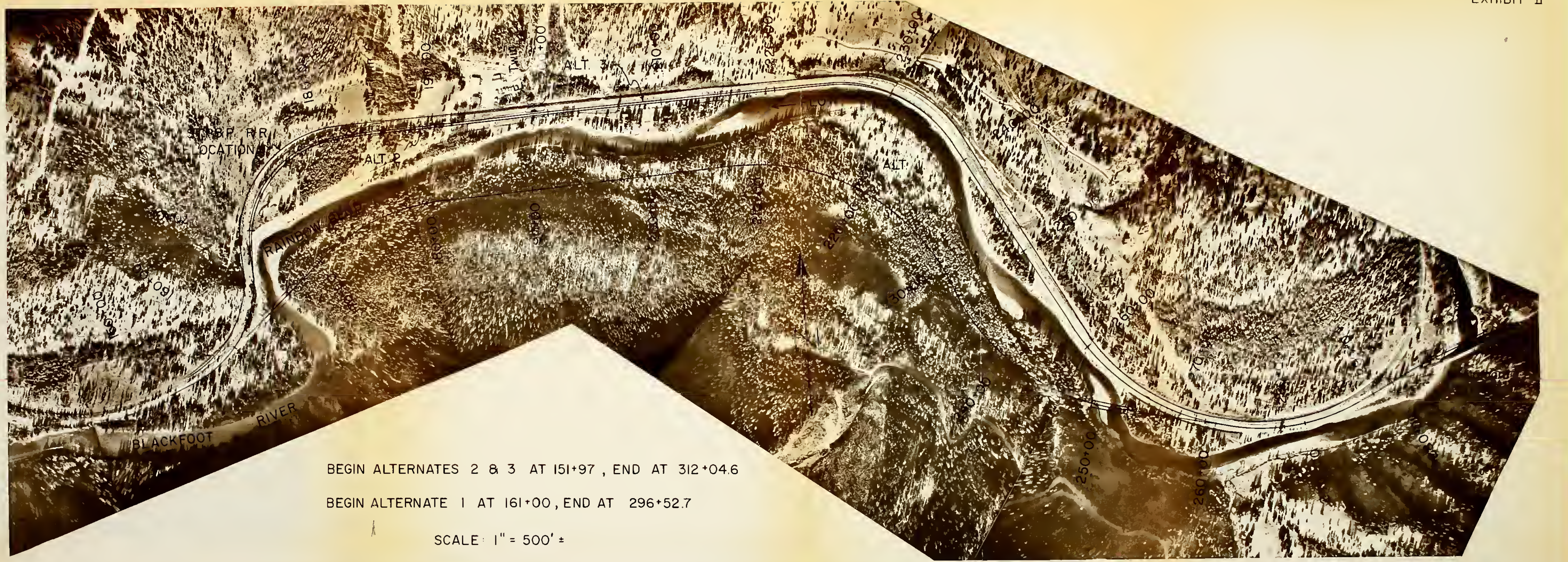

SUNFLOWER MOUNTAIN 5681
5245
Creek
Buck Creek
Little Belmont Creek
Dunnigan Gulch
Elk Draw
Ridge
Kinneys
Whiskey
Warm Springs
Burnt Bridge Creek
Creek
Gold
MILWAUKEE
Thibideau Rapids
Gulch
Flats
Sheep
Goose Rock Flat
RED ROCK
Creek
Creek
36
31
36
CHICAGO
6
5
4
3
vin
eeks
Rainbow Bend
KFOOT
6
McNamara
12.7
FAP 24
STEVES PASS
1
200
Potomac P O
Potomac
DIAMOND MOUNTAIN 4314
Creek
Union
Creek
Creek
Creek
Norman
Bear
Game
Blixit
Camas
Creek
PROJECT LIMITS
36
31
Arkansas
Creek
36

EXHIBIT II

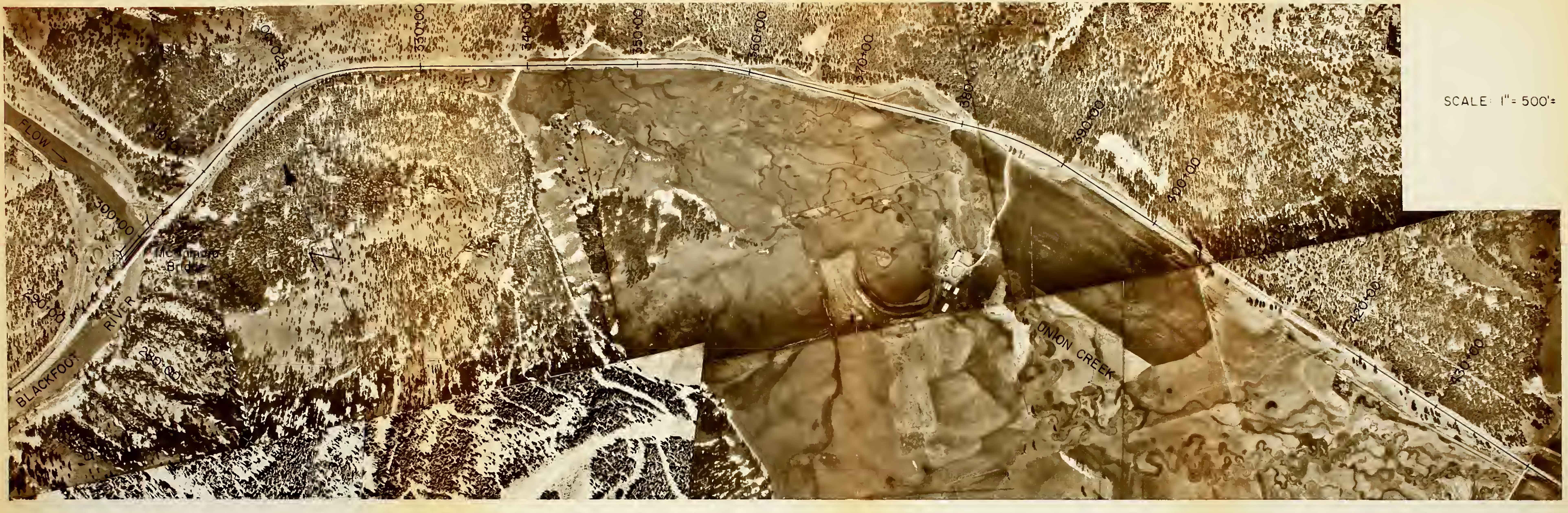


BEGIN ALTERNATES 2 & 3 AT 151+97, END AT 312+04.6

BEGIN ALTERNATE 1 AT 161+00, END AT 296+52.7

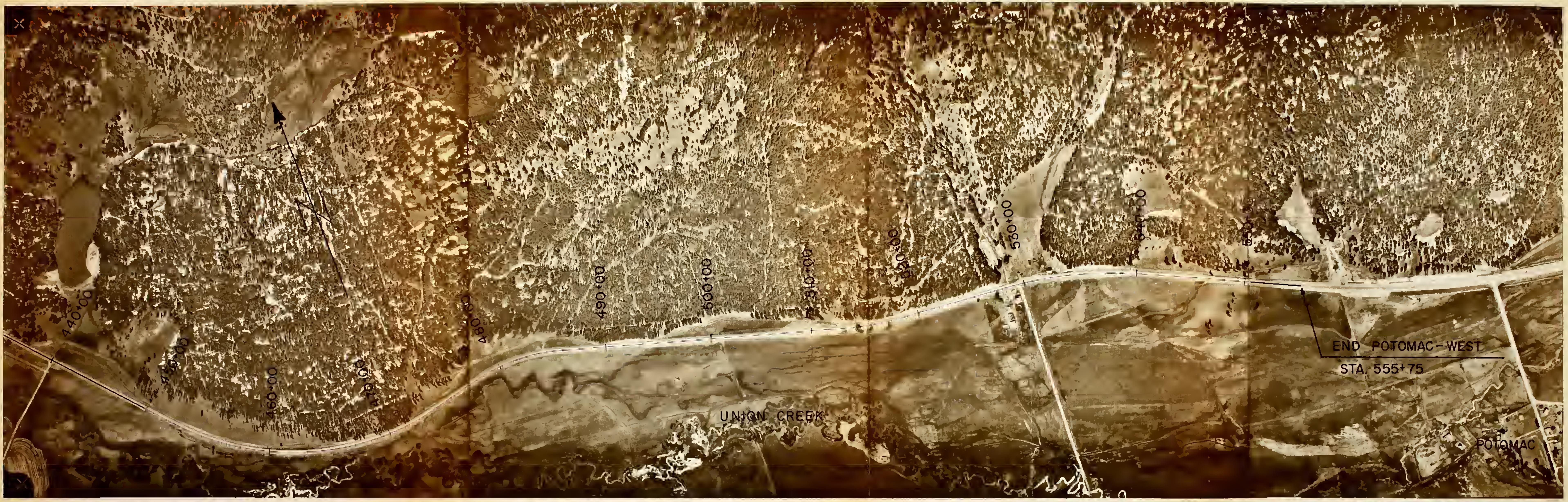
SCALE: 1" = 500' ±

EXHIBIT III



SCALE: 1" = 500'±

EXHIBIT IV



SCALE: 1" = 500' ±